

ATTORNEY DOCKET NO. 02-064CIP (ANSI01-00012)
U.S. SERIAL NO. 09/500,213
PATENT

AMENDMENTS TO THE CLAIMS:

1 1. (Currently Amended) A neurostimulating lead comprising:
2 (a) a body member having a length, a wall, a proximal end and a distal end;
3 (b) at least one conductor embedded within the wall of the body member and
4 extending the length of the body member;
5 (c) at least one tunnel extending from an outer surface of the body member to the at
6 least one conductor;
7 (d) at least one thin film electrode deposited on the outer surface at the distal end of
8 the body member; and
9 (e) an electroplated conductive link extending through the at least one tunnel from
10 the at least one conductor to the at least one thin film electrode.

1 2. (Previously Amended) The neurostimulating lead, as in Claim 1, further comprising at
2 least one connector having a contact electrically joined to the at least one conductor at the
3 proximal end of the body member and adapted to connect the lead to a neurostimulator.

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1 3. (Previously Amended) The neurostimulating lead, as in Claim 1, wherein the body
2 member is tubular, having an annular wall defining an internal lumen extending between the
3 proximal end and the distal end with the at least one conductor being spiral wound and
4 embedded in the annular wall.

B 1 4. (Previously Amended) The neurostimulating lead, as in Claim 3, wherein the body
2 member comprises polyurethane and has an outer diameter of about 2 French and an internal
3 diameter of about 0.012 inch.

1 5. (Previously Amended) The neurostimulating lead, as in Claim 4, wherein the at least
2 one conductor has said conductors have a substantially rectangular cross-section, about 0.004
3 inch wide by about 0.002 inch high.

1 6. (Previously Amended) The neurostimulating lead, as in Claim 5, wherein the at least
2 one conductor comprises metal, and wherein the metal is selected from the group consisting of
3 stainless steel, MP35N, titanium, tantalum, tungsten, platinum, and silver.

1 7. (Previously Amended) The neurostimulating lead, as in Claim 3, wherein the at least
2 one conductor comprises turns, with each turn being at an angle between about 10 degrees to
3 about 80 degrees from a longitudinal axis of the body member.

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1 8. (Previously Amended) The neurostimulating lead, as in Claim 7, wherein the at least
2 one thin film electrode is electrically connected by the at least one conductive link to the at least
3 one conductor.

1 9. (Previously Amended) The neurostimulating lead, as in Claim 7 wherein the at least
2 one thin film electrode spans and is electrically connected by the at least one conductive link
3 to more than one turn of the at least one conductor.

10. (Previously Canceled)

1 11. (Previously Amended) The neurostimulating lead, as in Claim 1, wherein the
2 electroplated conductive link comprises a metal selected from the group consisting of gold,
3 silver, platinum, platinum-iridium and titanium.

12. (Previously Canceled)

13. (Previously Canceled)

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1 14. (Previously Amended) The neurostimulating lead, as in Claim 1, wherein the at least
2 one thin film electrode includes a first segment and a second segment disposed along a
3 longitudinal dimension of the body member in overlapped relation, the first segment and the
4 second segment adapted to be electrically connected to a one of a voltage of positive polarity,
5 a voltage of negative polarity, and zero voltage.

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1 15. (Previously Amended) The neurostimulating lead, as in Claim 1, wherein the at least
2 one thin film electrode comprises multiple superposed nanocrystalline metal layers with an
3 innermost layer of a metal selected from the group consisting of titanium, chromium, nickel and
4 aluminum and having a thickness less than about 5 microns, a layer adjacent the innermost layer
5 of a metal selected from the group consisting of lead and platinum and having a thickness
6 between 500 angstroms and 50 microns, the outermost layer of a metal selected from the group
7 consisting of gold, platinum and platinum-iridium and having a thickness between 500
8 angstroms and 50 microns, and a layer adjacent the outermost layer of a metal selected from the
9 group consisting of gold, platinum, platinum-iridium, silver and copper and having a thickness
10 between 500 angstroms and 50 microns.

16. - 35. (Canceled/Previously Withdrawn)

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1 36. (Previously Added) A neurostimulating lead comprising:
2 (a) a body member having a length, an outer surface, a proximal end and a distal end;
3 (b) at least one conductor extending the length of the body member;
4 (c) at least one electrode positioned on the outer surface at the distal end of the body
5 member; and
6 (d) an electroplated conductive link extending from the at least one conductor to the
7 at least one electrode.

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1 37. (Previously Added) The neurostimulating lead, as in Claim 36, further comprising a
2 plurality of tunnels extending through a wall of the body member from the at least one
3 conductor to the electrode, each of the plurality of tunnels including an electroplated conductive
4 link for electrically connecting the at least one conductor to the electrode.

1 38. (Previously Added) The neurostimulating lead, as in Claim 37, wherein the at least one
2 conductor comprises turns, with each turn being at an angle between about 10 degrees to about
3 80 degrees from a longitudinal axis of the body member.

1 39. (Previously Added) The neurostimulating lead, as in Claim 36, wherein the at least one
2 conductor is embedded within a wall of the body member.

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1 40. (Previously Amended) A neurostimulating lead comprising:

2 (a) a body member having a length, an outer surface, a proximal end and a distal end;

3 (b) at least one conductor extending the length of the body member;

4 (c) at least one electrode positioned on the outer surface at the distal end of the body

5 member; and

6 (d) an electroplated conductive link formed during an electroplating process and

7 extending from the at least one conductor to the at least one electrode, the electroplated

8 conductive link comprising a metal selected from the group consisting of gold, silver, platinum,

9 platinum-iridium and titanium.

1 41. (Previously Added) The neurostimulating lead, as in Claim 40, wherein the at least one

2 conductor is embedded within a wall of the body member and the electroplated conductive link

3 extends through a tunnel from the at least one conductor to the electrode.

1 42. (Previously Added) The neurostimulating lead, as in Claim 41, wherein a plurality of

2 electroplated conductive links extend from the at least one conductor to the electrode.